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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,121	09/18/2002	Jernej Jelenic	ACD2731US	9957

7590

11/19/2003

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EXAMINER

WILSON, DONALD R

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/070,121	Applicant(s) JELENIC, JERNEJ	
	Examiner Donald R Wilson	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 7-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☒ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Restriction Requirement

1. Restriction is required under 35 U.S.C. 121 and 372.
2. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Group I, claim(s) 1-5, drawn to a process to cross-link a polymer/elastomer composition.

Group II, claim(s) 6, drawn to a cross-linked polymer/elastomer composition..

Group III, claim(s) 7-11, drawn to a copolymer composition, wherein said copolymer contains olefin-derived moieties and anhydride and/or acid groups.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Claim 1 of Group I is anticipated at least by Claim 1 of WO'512 (equivalent to FR'774 cited in the international search report). A special technical feature is defined in PCT Rule 13.2 as "--- those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art." (Underlining added.) Accordingly, the special technical feature linking the inventions, does not provide a contribution over the prior art, and restriction is therefore proper

3. In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

Election of Species Requirement

4. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.
5. The species are as follows:
 - a. polymer/elastomer (Group I and II inventions),
 - b. one or more copolymers comprising olefin-derived moieties and anhydride and/or acid groups (Group I-III inventions),

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- c. peroxides (Group I, II and III inventions),
- d. further additives including the specie of none present (Group III inventions), and
- e. carrier materials (Group III inventions).

6. As appropriate to the elected group of inventions, applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election. Claims 1-4, 6, 7-8 and 11 appear to be generic to the above genera of species.

7. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

8. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the same reasons discussed above in the restriction requirement.

Conclusion to Restriction/Election Requirement

9. During a telephone conversation with Mr. Richard P. Fennelly on 11/6/03 a provisional election was made with traverse to prosecute the invention of Group III, claims 7-11, and the species of an α -olefin/maleic anhydride copolymer as the one or more copolymers, and di-(t-butylperoxy-iso-propylbenzene as the peroxide. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-6 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Claim 11 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected specie of the invention.

Objection to Claims

10. Claim 10 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from other multiple dependent claims. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 112, Second Paragraph

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11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. ~~Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.~~

13. The language of Claim 7 is indefinite because it depends upon process limitations of Claim 1 which has been withdrawn from consideration due to a restriction requirement. The claim needs to be rewritten in independent form. The language is further indefinite because it is unclear on what the percent of the carrier material is based, e.g., total weight of the composition, or weight of the copolymer, or weight of the copolymer plus peroxide.

14. Claim 8 is indefinite because the molecular weight which is presumably an average molecular weight, does not specify whether it is on a number basis, weight basis etc., or perhaps is a peak molecular weight.

15. Claim 9 is indefinite because of the terms "olefinic" and "derived from". The term "olefinic" implies "olefin like" and the metes and bounds of what is included as opposed to just reciting "olefin" cannot be determined. Further, given enough chemistry, units "derived from" could include any "olefinic" unit. It is suggested that the language "olefin units derived from the copolymerization of" be substituted therefore.

Claim Rejections - 35 USC § 102(b)/§ 103(a)

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. **Claims 7 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by WO'512.**

20. WO'512 discloses procedures for modifying polyolefins for improved adhesion which involves admixing to the polyolefin polymeric compounds and organic peroxides (p. 1 1st ¶). Such polymeric compounds are taught to include copolymers of aliphatic α -olefins and maleic anhydride (see page 3, lines 11+, and especially formula (1)). Example IV exemplifies admixing a diene/maleic anhydride copolymer and an organic peroxide to the polyolefin in relative amounts such as are instantly claimed, making such relative amounts readily envisaged.

21. **Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'512 as applied to claims 7 and 9 above, and further in view of "Plastics Additives Handbook".**

22. WO'512 discussed above is deficient in not disclosing the molecular weight of the polymeric compound, or the elected specie of peroxide. However, lacking a showing of criticality for the molecular weight limitation of instant Claim 8, it would have been obvious to one of ordinary skill in the art to use an α -olefin/maleic anhydride copolymer of a molecular weight within the limits of the instant claims with an expectation of equivalent result to other typical molecular weights of such copolymers. Although WO'512 doesn't specifically disclose the peroxide used, it would have been obvious to one of ordinary skill in the art to use any well known peroxide used in the melt processing of polyolefins with an expectation of equivalent results. Such peroxides would include the di-(t-butylperoxyisopropyl)benzene, which would be further known to have a low odor nuisance such as is taught by "Plastics Additives Handbook" (pp 638-639).

23. **Claims 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Blecke.**

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24. Blecke discloses compositions comprising a peroxide and a 1-octadecene/maleic anhydride copolymer in amounts such as are in the instant claims (see Examples 1 and 2).

25. **Claim 8 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Blecke.**

26. The copolymers of Blecke discussed above are used as dispersing agents and have what would be recognized by those of ordinary skill in the art as very low inherent viscosities (see Table at col. 2-3). While molecular weights are not specifically taught of the 1-octadecene/maleic anhydride copolymer, one of ordinary skill in art would expect the molecular weights for such low viscosity copolymers to fall within the range of the instant claim 8. The burden is on applicant to show that they would not.

It has been held that where applicant claims a composition in terms of function, property or characteristic where said function is not explicitly shown by the reference and where the examiner has explained why the function, property or characteristic is considered inherent in the prior art, it is appropriate for the examiner to make a rejection under both the applicable section of 35 USC 102 and 35 USC 103 such that the burden is placed upon the applicant to provide clear evidence that the respective compositions do in fact differ. *In re Best*, 195 USPQ 430, 433 (CCPA 1977); *In re Fitzgerald et al.*, 205 USPQ 594, 596 (CCPA 1980).

27. Blecke does not teach the use of the elected specie of peroxide. In as much as the decomposition point of the peroxide is taught to be below the softening point of the resin it would not have been obvious to one of ordinary skill in the art to use said elected specie.

Art of Interest/Technological Background

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references may be used in a rejection of non-elected species of the invention should they come under consideration. Gruver discloses mixtures of polymers containing acidic groups and peroxides. Senatore discloses compositions comprising alkadiene polymers adducted with an anhydride such as maleic anhydride and a peroxide. JP'646 discloses compositions containing a maleic anhydride modified polybutadienes and the elected specie of peroxide. Sanchez discloses reaction mixtures of 1-octadecene/maleic anhydride copolymers and various functional peroxides within relative amounts of the instant claims (Examples 16, 17 and 23). JP-258 discloses rubber compositions containing a maleic anhydride/ethylene copolymer and an organic peroxide. JP'541 discloses isobutylene/maleic anhydride copolymers and a peroxide initiator.

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Abstract Missing

29. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Future Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald R Wilson whose telephone number is 703-308-2398 (571-272-1113).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 703-308-2450 (571-272-1114). The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications. The unofficial direct fax phone number to the Examiner's desk is 703-872-9029 (571-273-1113).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-2351.

The Examiner is expected to move to the new Office about Christmas time. New telephone numbers known to the Examiner are indicated in parentheses.



Donald R Wilson
Primary Examiner
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